Southwestern Medicine

Volume III El Paso, Texas, Nov., 1919. No. 11

FOREIGN BODY INJURIES TO THE EYES; LOCALIZATION AND REMOVAL OF FOREIGN BODIES.

BY

DRS. ANCIL MARTIN and W. WARNER WATKINS, Phoenix, Arizona.

Part I.

Most foreign body injuries are received at that portion of the globe exposed through the palpebral fissure.

Burns by molten metals and other heated substances are usually superficial, but, at the same time, often quite destructive in their action. In this form of injury it may be advisable to delay for a few hours the removal of the metal, particularly if it is spread over a considerable area, as, by so doing, less trauma results. Sterile castor oil is advised for dressing, since it does not become so fluid as vaseline, when warm. If the conjunctival surface of the lid has also been burned, as is usually the case, it may be well, several times daily, to separate the lid from the globe and instil more oil to avoid a symblepharon, if possible.

Foreign bodies buried in the cornea are removed by a sterilized sharp pointed instrument. A good illumination is necessary, obtained by focusing artificial light through a convex lens upon the site of the foreign body. It is also suggested that a lens having a focal point of two inches be used through which the operator observes the field of operation and under which the removal is made. In this manner the minimum degree of traumatism results. The avoidance of traumatism is of especial importance when the foreign body is lodged in the pupillary area of the cornea, since scar tissue in that locality impairs vision to a greater or less degree. After the removal of a foreign body, which has been lodged in the cornea, it is frequently noticed that a ring of discolored eschar remains. It is necessary to remove this ring and, if possible, without too great destruction of the corneal structure, to remove thoroughly all stained tissue, otherwise the wound frequently will not close.

Very small, deeply buried foreign bodies, chemically non-irritating, may give no great disturbance, if not removed. They must, however, be so deeply buried that the movement of the lids will not disturb them,

and also so deep that the effort at their removal would result in a large destruction of corneal tissue. Grains of powder, if deeply buried, may be permitted to remain without danger of ulceration or infection. However, it must not be understood that foreign bodies can be left in the cornea with impunity.

All corneal wounds may become infected. Should there be a disease of the lachrymal sac, an infection of the wound frequently follows. For the protection of the surgeon, the presence of a dacryocystitis should be noted and its dangers called to the attention of the patient. For similar reasons one should ascertain whether an attempt has been made to remove the foreign body, and if so, what means was used. It is a wise precaution and good surgical practice to cover all eyes injured, however trivially, with a sterile dressing, to be worn for one or more days. It is impossible to judge which corneal wound, large or small, may develop an infection.

Foreign bodies lodged in the anterior chamber may be washed out, or may be picked up by iris forceps through an opening made in the cornea. When entangled in the iris, it probably will be necessary to pick up that portion of the iris carrying the foreign body and excise it.

Following the entrance of a foreign body, if the iris should become prolapsed into the wound, it should be amputated and the stump replaced so that no portion remains incarcerated between the lips of the wound.

A foreign body finding lodgment in the lens is usually a cause of less disturbance to the eye than when lodged in any other tissue of the globe. Its removal may be accomplished by the extraction of the lens. Such an extraction leaves the eye aphakic, in which condition it is of no great visual value. It is true that vision under such a condition may may be brought to nearly normal in the injured eye, when a properly adjusted lens is used, however, this procedure is impracticable as the injured eye has lost its accommodative power and will not coordinate with a normal fellow eye. Hence, visually, the injured eye may be considered lost so long as the vision continues normal in the fellow eye.

Foreign bodies located in the deeper tissues of the globe are interesting chiefly in proportion to their character, as magnetic or non-magnetic. When non-magnetic it is usually impossible to remove them, although more or less successful efforts have been made to do so through an opening made in the sclera while the foreign body is kept in view of the operator by means of an ophthalmoscope. Of all foreign bodies which enter the eye those of magnetic character are of most interest to the ophthalmogist. In examining a case of foreign body in the globe, the history of the accident and the probability of the foreign body being magnetic are important; as is the information derived from the location of the wound, and from the direction taken by the foreign body upon entering the eye, which information may point out the probable location

of the foreign body within the globe. The physical position and attitude of the injured person, and the character of the force which liberated the foreign body, with especial relation to the source and location of the foreign body previous to its flight, may be of value. Basing an opinion upon personal experience, the following theory of the flight of foreign bodies suggests itself. In delivering a blow with a hammer, the force is directed in a line passing from the worker's eye to the point of the object struck. The return flight of the foreign body would, therefore, all other influence, such as a glancing blow, being eliminated, be in a return direction exactly following the line of delivery of the blow. This theory proves to our satisfaction the frequency of foreign body eye injuries. In the flight, the foreign body will naturally adjust itself to a position least resistant to its passage through the air; this would place the sharp point in advance, and in a form in which it would most readily penetrate the globe.

Immediately following an injury, before the media become clouded by intraocular hemorrhage, or lens opacity, a view of the interior of the eye may be had by the ophthalmoscope and the foreign body possibly located. However, in locating the foreign body, we place our greatest reliance upon the X-Ray with a mechanical localizer.

Extraction of magnetic foreign bodies is accomplished by the use of the electro-magnet. In event the injury is recent and the wound of entrance satisfactorily located, the extraction may be made through this route, enlarging the opening, if necessary. Should a traumatic cataract be present, it is usually advisable to make the extraction of the foreign body by drawing it through the suspensory ligament, then through the pupil into the anterior chamber, following which the cornea may be incised near its periphery and the foreign body extracted. On the other hand should the lens be clear, it is probably better to make an opening through the sclera nearest the location of the foreign body as shown by the radiograph, and make the extraction through this opening. Preferably, the opening should not be made farther back than the horizontal equator, and yet sufficiently well back to avoid any injury to the ciliary body. If possible, it is well to avoid the localities of attachment of the extraocular muscles.

An L shaped opening is probably best, or if the foreign body be very large, a T shaped one. Closure of the wound should be made by a stitch through the bulbar conjunctiva.

The prognosis of foreign bodies retained in the globe is almost absolutely unfavorable. The possibility of extraction of magnetic foreign bodies make their entrance less formidable than those of non-metallic character.

Small metallic foreign bodies are frequently aseptic because they are highly heated when broken off; large ones are more likely not to be

sterile. Some foreign bodies are more chemically irritating than others, copper and brass most so. Iron fragments oxidize and a condition of siderosis of the tissues, especially of the iris is produced. This discoloration, in old cases of iron in the globe, assists in arriving at a diagnosis.

Foreign bodies within the globe may result in iridocyclitis, abscess of the vitreous or panophthalmitis.

A wound through the sclero-corneal junction will result in an injury to the ciliary body or uveal tract. This is the most dangerous of all eye injuries and the one most frequently resulting in sympathetic ophthalmia. That sympathetic ophthalmia may follow the entrance of a foreign body into any portion of the globe should be emphasized. Early prognosis should be very guarded. When injury is so extensive as to offer no hope, enucleation may be made at once. There are instances when the eye shows marvelous powers of resistance to traumatism and the presence of foreign bodies within the globe, as the following history will illustrate.

October 15, 1903, W. V. aged six years injured by explosion of fulminate of mercury cap. The left eye was so badly damaged that enucleation was performed. It was found to contain a piece of copper 3x2 m. m. surrounded by a pus focus. The cornea of the right eye contained two small particles of copper which were removed. There was a penetrating wound at the temporal sclero-corneal margin, with a coloboma of the underlying iris. There was also a penetrating corneal wound to the nasal side with a corresponding coloboma of the iris. A traumatic cataract developed and was later extracted with subsequent vision of 20/30 plus, with a plus 12. sphere. He attended school for three years and later performed a man's work. From December 20, 1917 to May 18, 1918 he worked under ground as a miner and powder man, and had used an air drill. For two years previous to his going underground he had been employed in the shops as a full machinist, and has worked as car repairer, boiler maker, and general metal worker. He reads a great deal, frequently for two hours or more at a time. Fifteen years after the date of the injury the eye was quiet, carrying the scars of the injury. At this time the remains of the capsule was found to be folded under the iris to the nasal side. The pupil did not dilate readily—there was a posterior synechia of the pupillary region above. Fundus details were not visible by the ophthalmoscope; and by this means it was impossible to outline any foreign bodies within the globe. However, an X-Ray showed the presence of a small foreign body, probably copper, within the globe. Vision was equal to 15/15ths with a plus 12. sphere, plus 3. cylinder axis 75. With plus 3. added he was able to read readily standard scale No. 1.

Of seventeen cases treated during the past year there were nine with steel within the globe. From eight of these, extraction of the foreign

body was made by magnet. Of the nine, three eyes were enucleated because of sepsis. In addition to the above nine, there were three cases of steel within the orbit—none of whom were operated. Three eyes contained rock and all were enucleated. Two eyes contained copper, one of which was enucleated, the other was not disturbed as the patient had already lost the fellow eye.

Other case histories, illustrating the clinical courses of several types of foreign bodies are given in connection with the description of the localization of these bodies.

Part II.

Radiography is the chief reliance in localizing foreign bodies in the eye. Following the discovery of the roentgen rays in 1895, it was not long before their value in localizing foreign bodies in the eye, as elsewhere in the body, was recognized. In spite of the necessity for long exposures, De Schweinitz in 1897 succeeded in localizing approximately a large foreign body in the globe and, in the same year, Sweet developed the first accurate method of localization by metal indicators. There are, at present two chief methods of foreign body localization for the eye; the method of rectangular radiography has been developed by French and German workers; this method is crude and is to be recommended only where the mechanical localizer is not available. Triangular radiography or triangulation from double projections is the method of Sweet, Dixon and others and is the method in almost universal use in this country. This method embodies the same principle used in localizing other foreign bodies; that is, the X-Ray is sent off at right angles from the target and travels in a straight line; therefore the shadow of the foreign body appears on the plate at the point where the right angled ray from the target which passed through the foreign body strikes. And, when the source of x-Ray light,—which is the target,—is moved, the foreign body image will move in exact ratio with its distance from the plate; the further from the plate it is, the more will its shadow be displaced in the second image. By knowing the distance of the target from the plate, the distance the target is moved, and measuring the distance of displacement of the foreign body image between the first and second radiographs, its distance from the plate is readily and accurately calculated. When the principle is applied to localizing foreign bodies in the eye, fixed indicators are used to locate the anterior surface of the cornea on the plate, and the triangulation is figured from the shadow of this indicator.

In practical work, a mechanical localizer is used, with charts which accurately figure out the displacement of the foreign body image and, when its location with reference to the indicator is transferred to a chart, the localization with reference to the globe is very accurate.

The question often arises as to what bodies can be shown and what

substances are not visible in a radiograph of the eye. About 1905 it was demonstrated that the transparency of any substance to the x-Ray is in direct ratio to its specific gravity. The heavier the substance is the more visible it is. The transparency value of water being taken as one, the visibility of any substance on a radiograph can be ascertained by learning its specific gravity. Since the tissues of the body are chiefly water, no substance which is lighter than water will be visible through a layer of tissue on the radiograph, unless there is quite a thick layer of the substance. As an illustration, we have selected ten common substances and show their relative transparency to the x-Ray; the specific gravity is omitted and the lower the figures are, the more opaque is the substance and the more visible on the radiograph. It will be noted that pine wood is twice as transparent as water and bone about half as transparent. All the substances mentioned, except wood, should be visible as a foreign body in the eye, on the radiograph. According to this table, rubber would be invisible, but practically all rubber contains sufficient mineral substance to make it heavier than water and it is as visible as glass or aluminum on the radiograph.

Table I.

Transparency of various substances, as compared with water.

Water	1.	Quartz	
Pine wood	2.	Iron	.101
Rubber	1.1	Copper	.084
Bone	.56	Bismuth	.075
Aluminum	.38	Lead	.055
Glass	.34		

The exact place of quartz in this table is not shown, but it is visible on the radiograph and is denser than bone. Its relative visibility will depend upon the mineral content it carries.

To illustrate this table more graphically a plate showing these substances in the order named is shown,—both lying on the x-Ray plate (Fig. A) and also, with the interposition of the fore-arm between the substances and the plate. (Fig. B.) The piece of pine wood is dimly visible in the first figure, but is entirely lost when the fore-arm is interposed.

Taken along with the history of the accident, the x-Ray, therefore, is of assistance in determining the character of the material of which the foreign body is composed. Knowing the relative density of the bones as compared with various substances, and considering the thickness of the foreign body, some idea of its composition can be given.

We have selected twelve cases from those examined and treated during the past two years to demonstrate several kinds, sizes, locations and clinical courses of foreign bodies in the eye. The simple lateral

view of the orbit is used to show the foreign body, the localizing chart is shown to illustrate its location. A brief history of the clinical course of the case is taken from the records in each instance.

Case 1. (Fig. I, Chart 1) (Ernest Sovold) Steel, 1 m. m. in diameter. Entrance through cornea, iris and lens; localized in vitreous near transverse equator and close to temporal sclera. Withdrawn through scleral opening; patient discharged with vision 15/50—the reduced vision due to lens opacity.

Case 2. (Fig. II, Chart 2) (Hugo Holm) Panophthalmitis. Foreign body, entrance wound through sclera, in superior temporal region. Steel measuring 8x5x3 m. m. localized on the floor of the vitreous chamber, temporal side, apparently projecting through the posterior wall of the globe. Hypopyon. Corneal section with iridectomy was done and foreign body extracted anterior route followed by pus flow; enucleation next day. Vitreous phlegmon.

Case 3. (Fig. III, Chart 3) (F. Lopez) Foreign body, entrance through cornea, iris, and lens; localized on floor of vitreous chamber slightly to temporal side. Extracted by magnet through anterior route; foreign body became entangled in iris; iridectomy done; appearance good.

Case 4. (Fig. IV, Chart 4) (Samana) History would indicate injury 15 years previous; entrance through cornea, iris and lens. Divergent strabismus from non use. Siderosis of iris and cornea. Pupil displaced up and out towards site of corneal scar. Lens absorbed and iris tremulous; small opening in opaque lens capsule, through which vitreous opacities were seen and details of fundus visible with a plus 12. sphere. Vision 20/80 with plus 10. sphere. X-Ray shows foreign body in orbit, outside of globe, size 2x5 m. m. evidently foreign body passed entirely through globe. No attempt at extraction was made.

Case 5. (Fig. 5, Chart 5) (H. Wills) Injury 28 days previous. Vision hand movements; entrance through temporal sclera, lens opaque. X-Ray shows foreign body to nasal side well forward in vitreous. Extraction made through incision in sclera directly over point of localization; discharged with eye of normal appearance and tension, and vision of hand movements. Extraction of cataract to be made later.

Case 6. (Fig. VI, Chart 6) (Exhenry) Seven years old. Explosion of dynamite cap. Wound through cornea, iris and lens. Several small copper particles in corneal wound and anterior chamber. X-Ray shows foreign body in vitreous 1x1 m. m. Eye enucleated.

Case 7. (Fig. VII, Chart. 7) (Avila) Dust blown into right eye from machine drill. Seen seven months later. X-Ray shows foreign body in vitreous 2x1x1 m. m. Vision 15/40; extraction through scleral opening with magnet. Discharged with vision 15/40.

Case 8. (Fig. VIII, Chart 8) (V. Agundez) Seen three months

after injury by explosion of blasting cap. Both eyes contain pieces of copper. Left globe atrophic and was enucleated. X-Ray shows foreign body in right. Cornea clear excepting small deeply buried piece of copper. Lens clear; vitreous shreds. Extensive retinal detachment. Vision 15/20, but tubular. Has sense of looking through rifle barrel. Field reduced to 10 degrees only.

Case 9. (Fig. IX, Chart 9) (Castello) Eye injured two months previous by bursting of rock which was being heated in a fire. Wound through cornea near superior sclero-corneal margin, with wound of iris; pupil occluded and displaced upward. X-Ray shows foreign body; diagnosed as rock ½ m. m. in diameter, in vitreous. Eye had no light perception, was injected and tender and irritation of fellow eye was present. Enucleation.

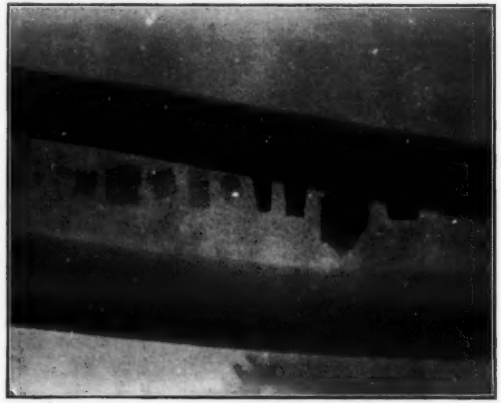
Case 10. (Fig. X, Chart 10) (Barrero) General keratitis with adventitious vessels and new tissue formation. X-Ray shows foreign body outside of globe to the temporal side. Its presence was considered to be coincident with the corneal changes, but having no bearing upon the condition of the cornea or its ultimate history. Foreign body was not molested.

Case 11. (Fig. XI, Chart 11) (F. Murietta) Seen four months after injury. Entrance through cornea, iris and lens. X-Ray steel in vitreous 2x4 m. m. removed via anterior route. Later extraction of lens was made. Discharged with vision equal to 15/70 with plus 11.

Case 12. (Fig. XII, Chart 12) (Joe Britts) Steel entered the sclera 6 m. m. posterior to the temporal sclero-corneal junction. All ocular structures anterior to the vitreous uninjured and transparent. An extensive hemorrhage into the vitreous followed, hence the fundus was not visible and the location of the wound of exit undetermined. Vision was reduced to 1/200 of normal. Radiograph showed the presence of a piece of steel 2½x1x1½ m. m. lying posterior to the globe, evidently having passed entirely through. No attempt at removal. Nine months later vision was 15/30ths plus.

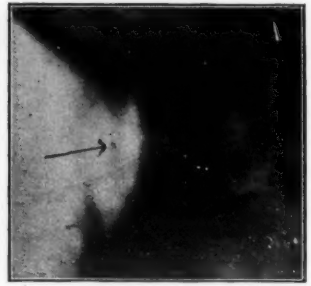
Case 13. (Fig. XIII, Chart 13) (Chas. Lax) Unusually large foreign body. Steel 18x5x1 m. m. passed through lower lid of right eye and entered the globe, incising its floor, from before backward. The anterior structures, including the cornea, iris, ciliary body and lens were not damaged. There was a large hemorrhage into the vitreous. Radiograph located steel partially within and partially posterior to the globe. Extraction by electro magnet through wound of entrance. Discharged in eighteen days with eye of normal appearance and tension. Vision equal to the counting of fingers at three feet. The visual impairment is chiefly due to the large blood clots in the vitreous.

A



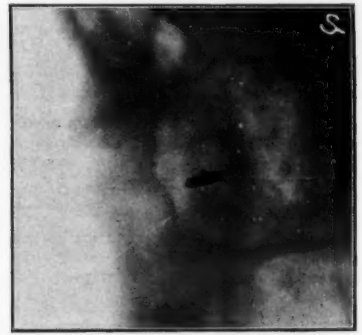
B

Figs. A and B:—Showing penetrability of various foreign bodies to the X-ray, in the open and through the tissues of fore-arm.



1

3



2

Fig. 1:—Lateral view of orbit showing piece of steel 1 mm. in diam., in location shown by Chart 1.

Fig. 2:—Lateral view of orbit showing steel 8x5x3 mm. in location shown by Chart 2.

Fig. 3:—Lateral view of orbit showing steel 1x2 mm. in location shown on Chart 3.

4

5

6

7

8

Fig. 4:—Lateral view of orbit showing foreign body outside of globe in location shown on Chart 4.

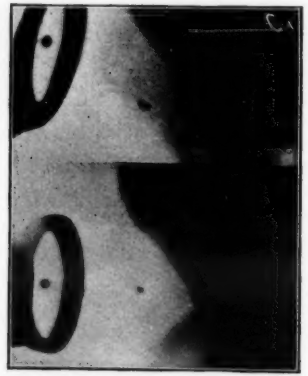
Fig. 5:—Lateral view of orbit showing steel 1x1x1½ mm. in location shown on Chart 5.

Fig. 6:—Lateral view of orbit showing piece of copper 1x1 mm. in location shown on Chart 6.

Fig. 7:—Lateral view of orbit showing steel 2x1x1 mm. in location shown on Chart 7.

Fig. 8:—Lateral view of orbit showing piece of copper 2x1x1 mm. in location shown on Chart 8.

9



10

11

12

13

Fig. 9:—Lateral view of orbit showing piece of quartz ½ mm. in diam. located as per Chart 9.

Fig. 10:—Lateral view of orbit showing foreign body located outside of globe as per Chart 10.

Fig. 11:—Lateral view of orbit showing piece of steel 2x1x1 mm. located in vitreous as per Chart 11.

Fig. 12:—Lateral view of orbit showing piece of steel 2½x1x1½ mm. lying posterior to globe as per Chart 12.

Fig. 13:—Lateral view of orbit showing large iron sliver20x5x1 mm. lying half within globe as per Chart 13.

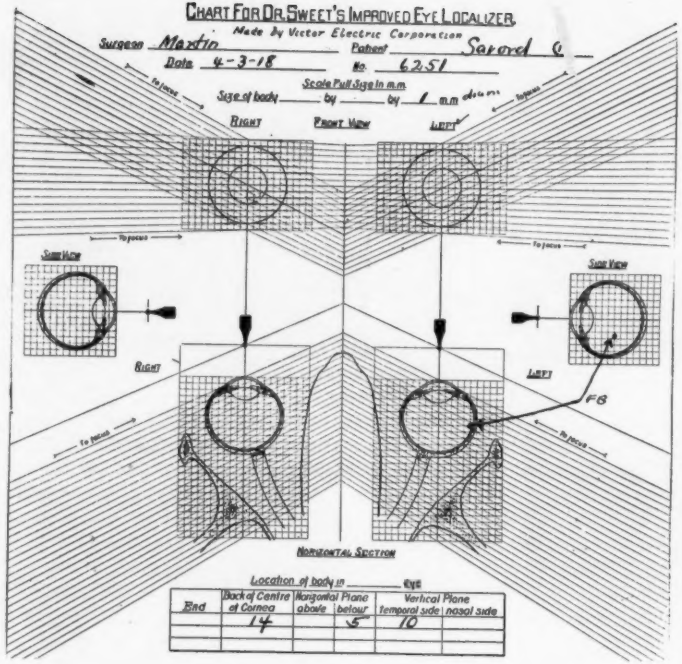


CHART I:—Location of steel shown in Fig. 1. Magnet extraction with vision 15/50 on discharge.

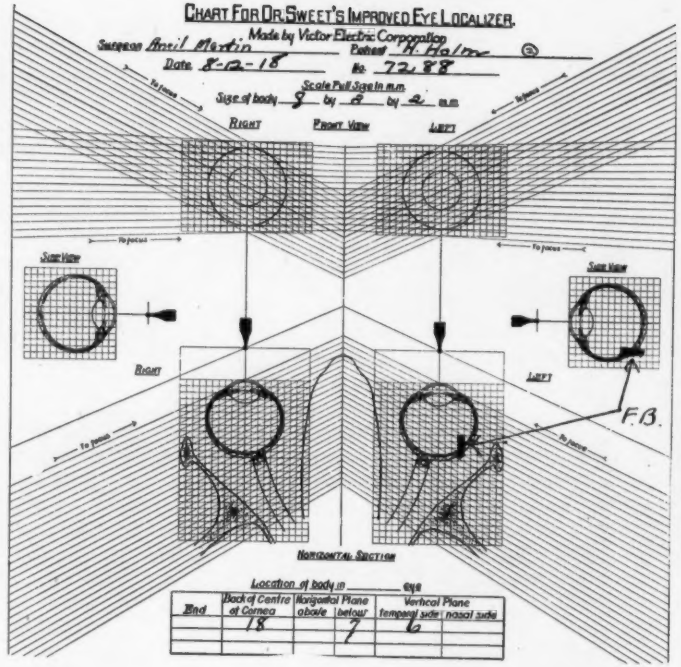


CHART 2:—Location of large steel foreign body shown on Fig. 2. Magnet extraction, showing pus. Enucleation.

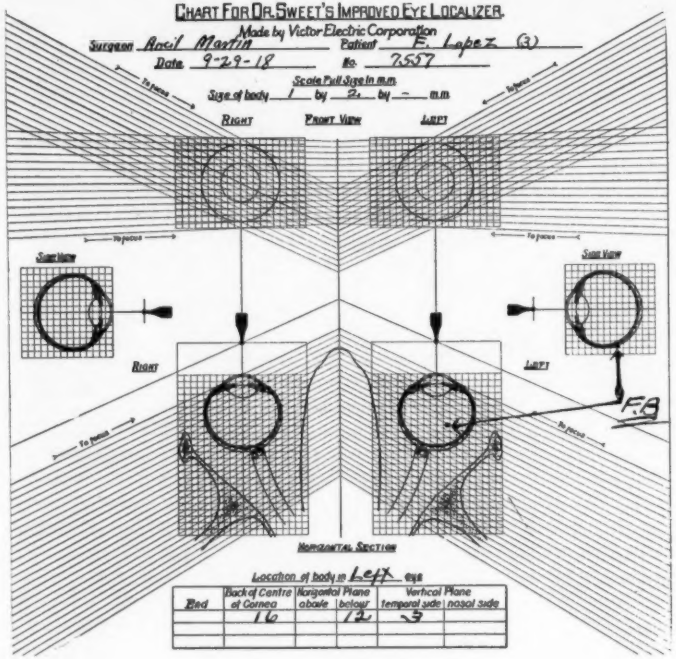


CHART 3:—Location of steel shown on Fig. 3. Magnet extraction; iridectomy; good appearance.

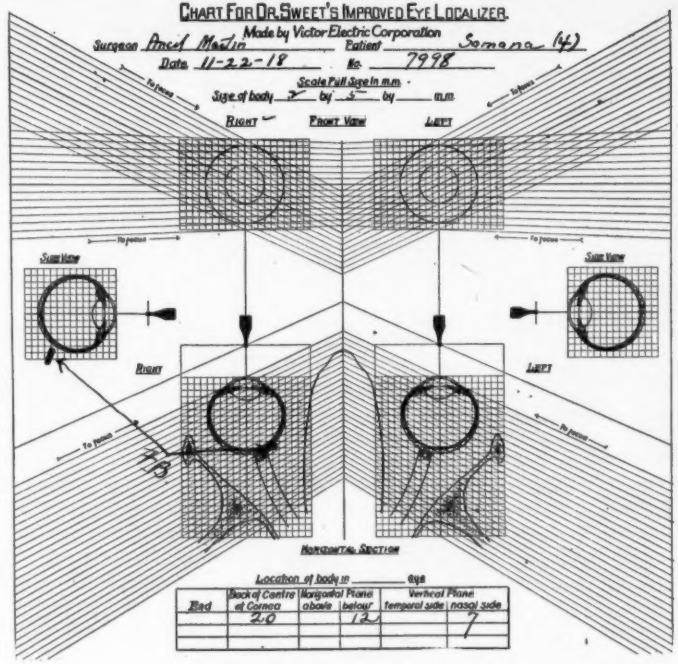


CHART 4:—Location of foreign body shown on Fig. 4. No extraction.

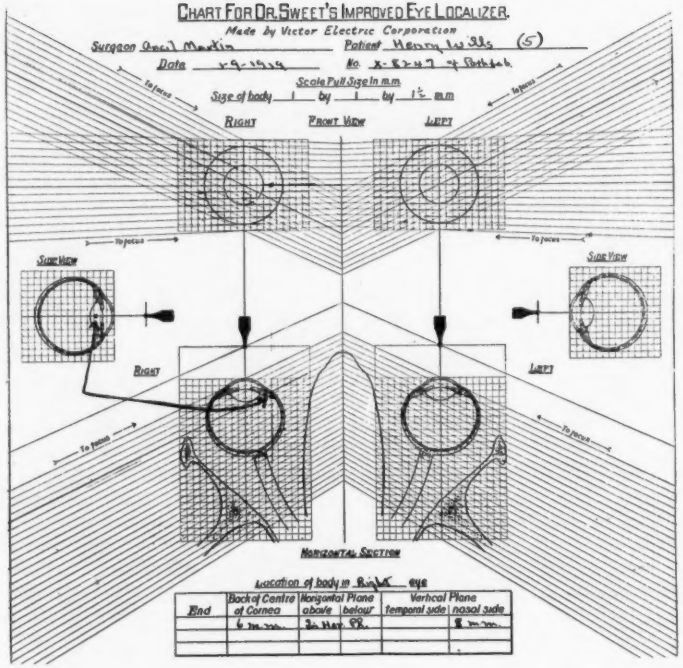


CHART 5:—Location of steel shown on Fig. 5. Injury 28 days previous. Magnet extraction through scleral opening. Good result.

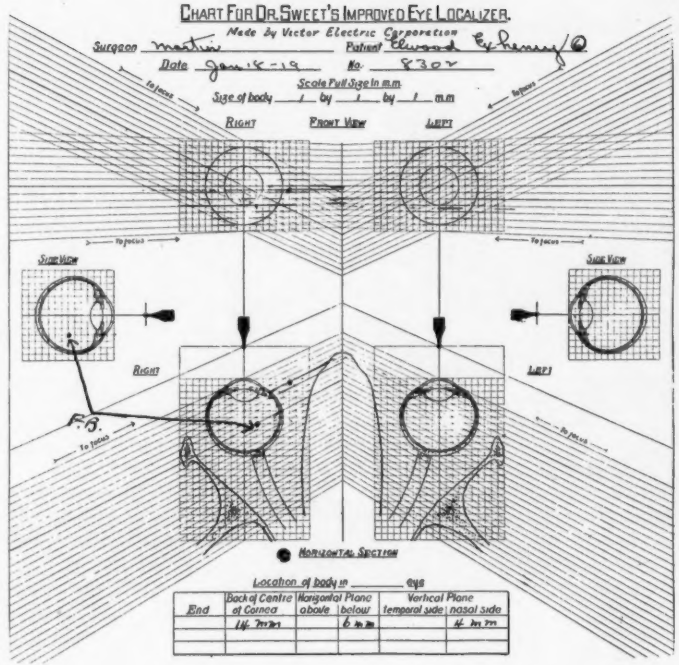


CHART 6:—Location of copper particles shown on Fig. 6. Enucleation.

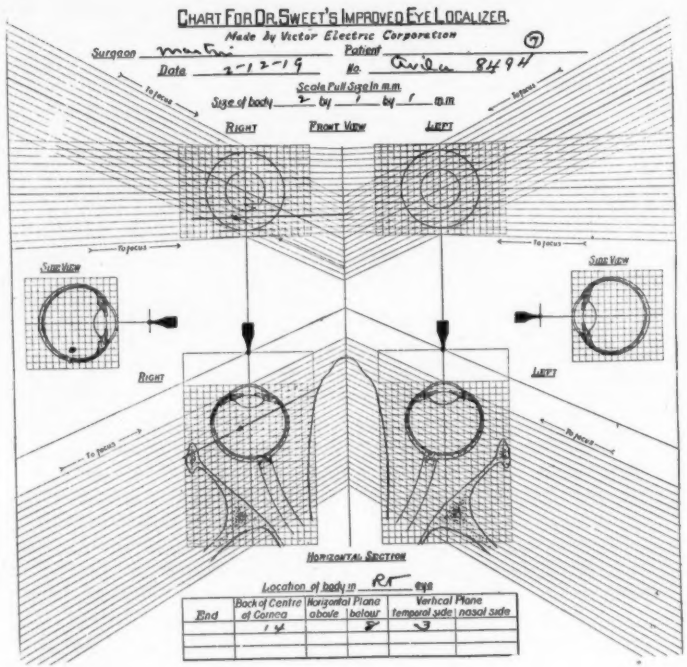


CHART 7:—Location of steel shown on Fig. 7; injury 7 mos. previous. Magnet extraction with resulting vision 15/40.

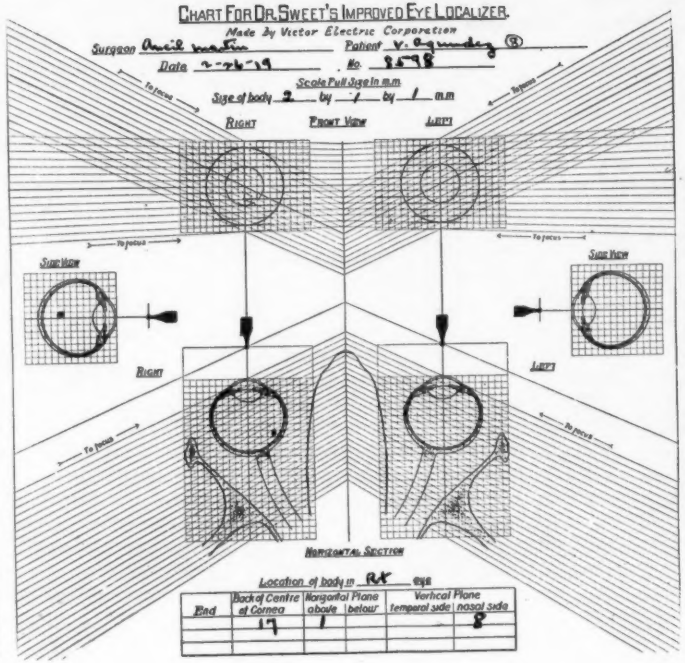


CHART 8:—Location of copper particle shown on Fig. 8. Vision 15/20 with field reduced to 10 degrees. Not removed.

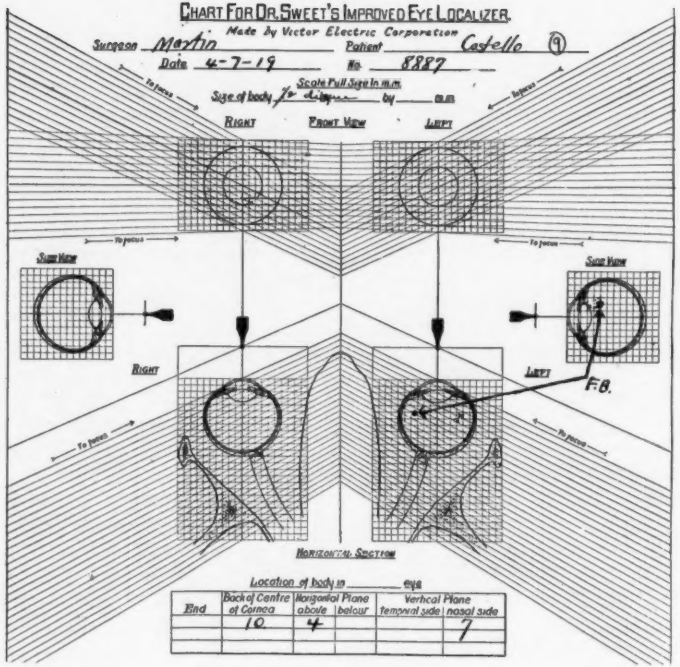


CHART 9:—Location of foreign body shown on Fig. 9; non-magnetic with infection. Enucleated.

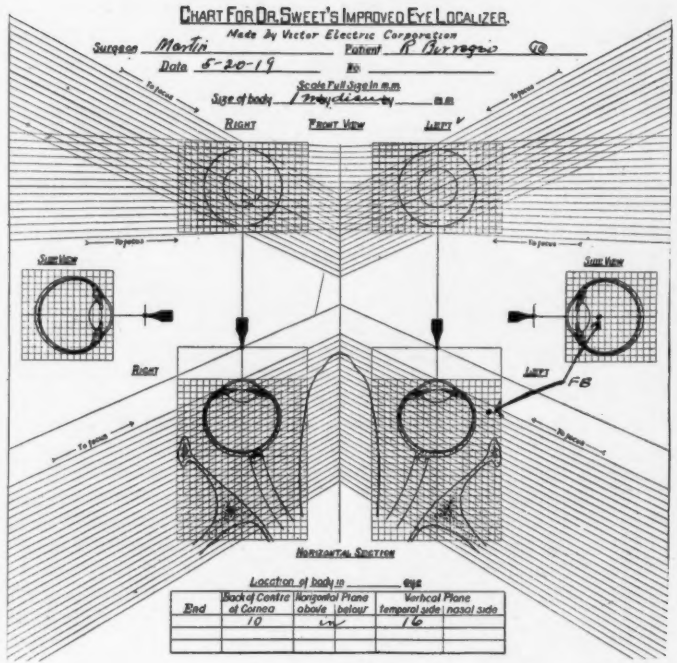


CHART 10:—Location of foreign body coincidentally present with keratitis, see Fig. 10. Not molested.

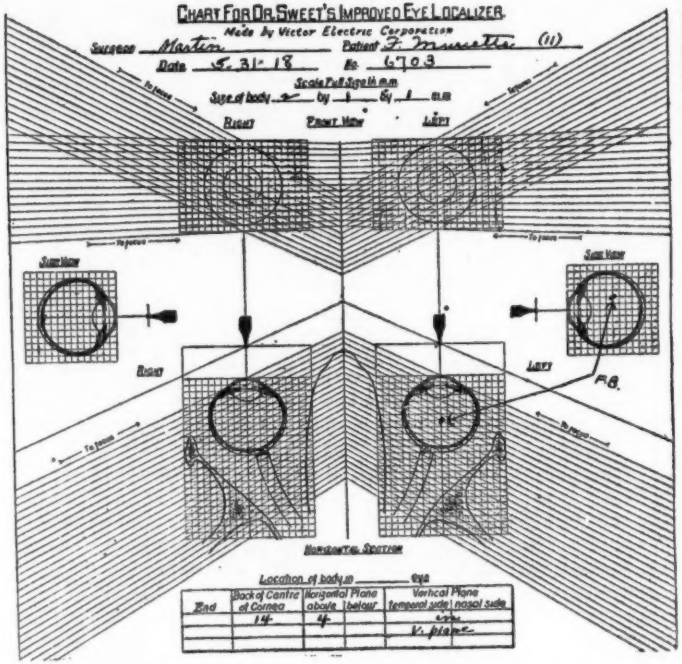


CHART 11:—Location of steel shown in Fig. 11. Magnet extraction, with lens extraction later. Vision 15/70 with plus 11.

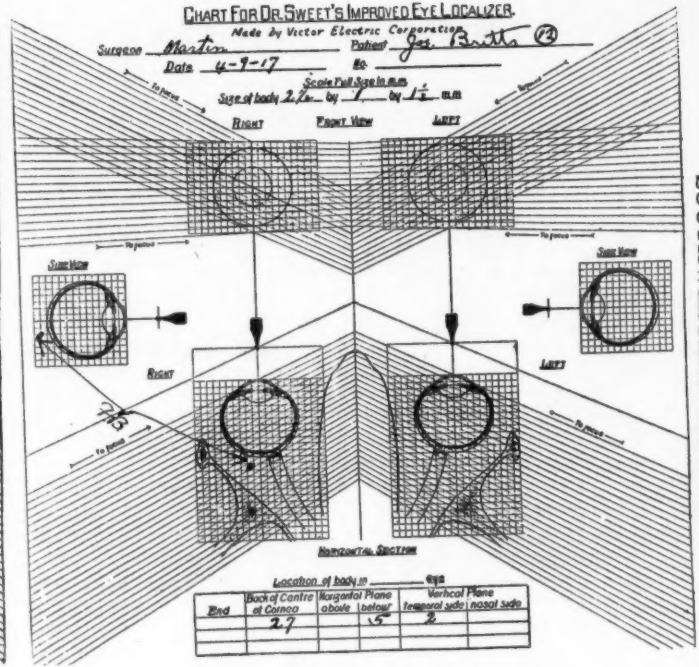


CHART 12:—Location of steel shown in Fig. 12. Not removed. Nine months later vision 15/30.

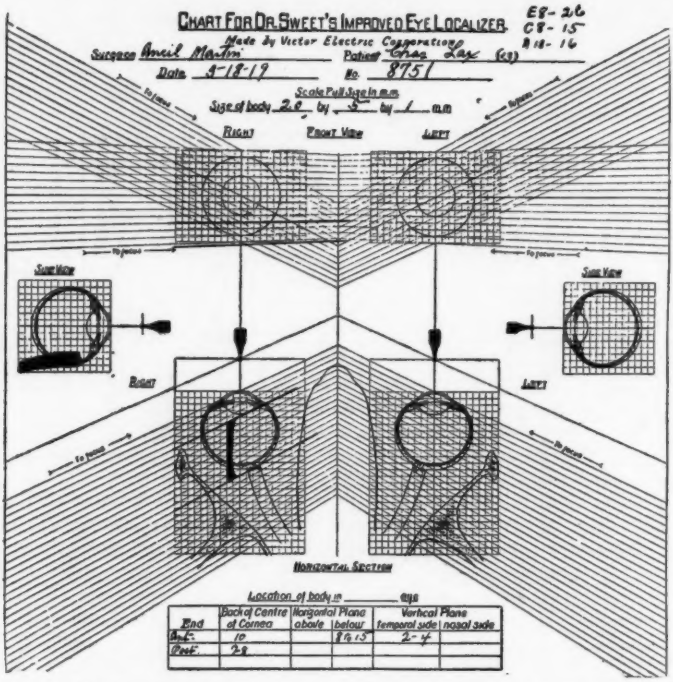


CHART FOR DR. SWEET'S IMPROVED EYE LOCALIZER.
Made by Victor Electric Corporation
Surgeon Ancil Martin
Patient Chas. Lax (x)
Date 4-18-19
No. 8751
Scale Full Size in m.m
Size of body 2.8 by 3 by 1 m.m
RIGHT
FRONT VIEW
LEFT
SIDE VIEW
HORIZONTAL SECTION
Location of body in eye
Eye | Back of Cornea | Horizontal Plane above | Horizontal Plane below | Vertical Plane temporal side | Vertical Plane nasal side
Aff. | 10 | | 14.5 | 2-4 |
Prof. | 28 | | | |

CHART 13:—Location of large iron sliver, shown on Fig. 13. Magnet extraction, with preservation of eye and vision of finger counting at three feet.

A PLEASANT TIME IS ANTICIPATED

In case you are a trifle hazy about the exact geographical location of El Paso remember that it is just across the river from the Great Oasis. In earlier days The Great Oasis did not enjoy its present repute. It was merely one of those places to which you went, don't you know. But, on such seemingly trivial things rests Fame, since the springs have all dried up and made of this grand and glorious country the real desert that dwarfs the Sahara by comparison, the grandeur of the sister city has all but eclipsed the wonders of our own. So come a few days early and stay a few days late.

Remember

The dates, December 11, 12, 13 and

Juarez is opposite.

SPLENOMYELOGENOUS LEUKEMIA.

BY
DR. B. L. SWEET

(Read before the El Paso County Medical Society October 6, 1919)

Splenomyelogenous leukemia, or the more recent term, myelocytic leukemia, is a disease of the blood characterized by a marked increase in the number of leucocytes, particularly the granular cells, associated with lesions of the spleen and bone marrow. It was formerly thought that there could be a purely splenic or purely myeloid form, but it is now known that neither occurs singly and many times the lymphatic system is also involved, making it hard to distinguish between this form and lymphatic leukemia.

The etiology is unknown. Among the theories the most plausible are microbic, as various cocci and bacilli have been isolated from the spleen and blood but none have been proved to be the cause. Autointoxication from the intestinal tract. Injury or blow over the spleen. And last but not least, focal infection. Intestinal ulceration, stomatitis and pyorrhea are frequent forerunners of the disease. As is the case in all chronic ailments, adverse hygienic and social conditions predispose to the disease. It is most common in males during the middle period of life, though it has been known in infancy and as late as 70 yrs.

The disease is rarely acute in contradistinction to the lymphatic type.

The onset is slow and insidious. Languor, dizziness, breathlessness on exertion and palpitation are early symptoms. Sometimes the first thing noticed is the swelling in the left side, the enlarged spleen. Later there may be hemorrhages, particularly epistaxis, and as the disease progresses, ascites, jaundice, extreme headaches, and the loss of weight and pallor due to the anemia. Gastric disturbances and constipation are common.

The enlarged spleen is the marked feature on physical examination. It may extend to or beyond the median line and to the pelvis below, and may weigh as much as 18 lbs. There may be some tenderness over the sternum or long bones.

The blood is the interesting and diagnostic point. The red cells are usually diminished, averaging 3,000,000 but may be as low as 1,000,000. The hemoglobin is low, a minus index being the rule. The red cells are usually fairly normal in size and shape, the only change being their anemic appearance and the frequency of nucleated cells chiefly normoblasts with a few megaloblasts. The leucocytes are enormously increased. Usually when the patient first goes to a physician the count is 200,000 or more. It may reach more than 1,000,000. The

differential count brings out the presence of the distinguishing cells, the myelocytes, which usually average 30 to 40% of the total leucocytes. These are mononuclear cells and vary in size from that of an ordinary red cell to 2 or 3 times that size, and are of three types just as the polynuclear cells normally found in the blood are. That is, they are neutrophilic, basophilic and eosinophilic, the neutrophilic predominating. The normal mononuclear cells or lymphocytes found in the blood are formed wherever there is lymph tissue. That is, in the lymph nodes, tonsils, lymphatic follicles of mucous membranes, the spleen, mesentery, thymus and bone marrow. While the myelocytes are formed only in the bone marrow anl are the cells which normally become polymorphonuclear leucocytes before appearing in the circulation. Arneth divides polynuclear neutrophiles into 5 classes according to the number of nuclear lobes. 1st, mononuclear forms or true myelocytes. 2nd, with slightly indented nucleus, and on to the 5th, with 5 or more nuclear subdivisions. The first two never being found in the normal circulation, and the last three being only the older, adult forms of the true myelocytes normally found in bone marrow.

The disease is chronic, subject to relapses and exacerbations, with usually a fatal outcome.

The treatment is symptomatic. Arsenic and other tonics for the anemia. The X-ray has been found to be most efficaceous in reducing the number of leucocytes and the size of the spleen *applied over the spleen.* Radium has the same effect. Benzol internally has been found to have the same reducing power, but it is more or less dangerous in its administration, many giving favorable reports, others quite the reverse.

The present case is that of a Mexican 45 yrs. of age. First came for examination Sept. 15. Family history negative. Has lived in El Paso 16 yrs. Had the usual diseases of childhood. No serious illnesses. Carpenter by trade. About 20 years ago while working in the mines was injured by falling and striking the left side. Had flu last March. Never seemed to regain strength afterward. For past 6 months has noticed that he tired more easily than usual and became short of breath on exertion the past 2 months. Appetite and digestion good. Bowels regular.

During the latter part of July this year he noticed a swelling in the left side, which has gradually grown larger. Has been troubled with palpitation some recently. Does not sleep well. Complains of dryness in throat. Has lost about 10 lbs.

On physical examination he is somewhat emaciated, pale. Moderate pyorrhea. Chest negative. Spleen enlarged beyond the median line and nearly to the pelvis.

Urinalysis. sp. gr. 1020, acid, albumen and sugar negative, microscopic, negative.

Sept. 15. Blood. Wassermann negative. Red cells 3,248,000. Hgb. 55%. Leucocytes 255,000. Sept. 16. Next day was 276,000. Poly. 57.3, lymph. 5.4, eosin 4.4, myelocytes 38.9. Nucleated rels present, but not numerous.

X-ray treatment begun:

Sept. 25, 332,000.

Sept. 30, 164,000.

Oct. 6, 58,000.

Oct. 23, 17,600.

Nov. 3, 10,800 (myelocytes 5%).

AN APPEAL FOR HUMAN EMBRYOLOGICAL MATERIAL

BY

WILLIAM W. GRAVES, St. Louis.

It is desired that the material, as soon as possible after delivery, be immersed in 10% formalin in a sealed container, and be forwarded to my address; charges collect. Due acknowledgment will be made to those forwarding material. 727 Metropolitan Bldg., St. Louis.

ADVENTURES OF DOCTOR YOUNG DOCTOR, NUMBER THREE

Some time later Young Doctor had a chance to take a vacation. He left behind him a patient about 14 with a mild secondary anaemia. He had been giving her iron hypodermically but on leaving changed to one of the better known preparations to be taken by mouth. Within a few days, the parents of the child wishing further assurance that the child was not seriously ill and was getting the proper treatment took her in to see Doctor Old Doctor. Old Doctor was rather surprised to see that she was so "greatly run down." But in spite of his surprise was reminded of a somewhat similar case. He related in detail the findings in that particular case and incidentally mentioned that the treatment was not the same as administered by Young Doctor. His results were "wonderful." They must have been as he admitted it. "He had to make a long trip out of town on very important surgical business but left the case to take the same treatment. He did not return for six weeks. Shortly after he came back a beautiful young lady came to his office one day",—Yes you can guess the rest. He did not recognize her but, "bless us" it was the same little girl. That family did not know when Young Doctor returned to town nor did they care. Why should they? When they had in Old Doctor, a man who secured such admittedly wonderful results?

Southwestern Medicine

Volume III El Paso, Texas, Nov., 1919. No. 11

All articles must be made exclusive to this journal. Reports of Society Meetings are asked for from the Secretaries.
Items of interest, with the name of the sender will be acceptable.
Books for review should be sent to The Editor.
Advertisements of proprietary medicines must have had the preparations approved by the Council of Pharmacy, A. M. A.
All business communications should be addressed to El Paso Printing Co., El Paso, Texas, Telephone 337.

Annual Subscription $2 **Members $1** **Single Copies 25 Cents**

Entered at the Postoffice at El Paso, Texas, as second class matter.

Board of Managers

James Vance, M. D., Chairman ..... El Paso, Texas
Troy C. Sexton, M. M., Secretary ..... Las Cruces, N. M.
George S. McLandress, M. D. ..... Albuquerque, N. M.
F. P. Miller, M. D. ..... El Paso, Texas
John W. Flinn, M. D. ..... Prescott, Arizona
D. F. Harbridge, M. D. ..... Phoenix, Arizona

Editors

George S. McLandress, M. D., Editor-in-Chief ..... Albuquerque, N. M.
W. W. Watkins, M. D., Associate Editor ..... Phoenix, Arizona
Paul Gallagher, M. D., Associate Editor ..... El Paso, Texas

Business Manager

EL PASO PRINTING COMPANY ..... EL PASO, TEXAS

If you do not get your Journal, kick to me. If you change your address, let me know and we'll follow you.
If anything does not please you, say so! Maybe we'll change. But we would sooner be cussed than damned with faint praise.
Hey, Skinnay! Don't forget the meeting of the Southwestern Medical and Surgical Association, El Paso, December 11, 12 and 13. Cumon over!

EDITORIALS

ILLICIT SURGERY.

In the matter of what surgery is allowable, there seems to be greater freedom in this part of the country than in any other with which we are familiar. Many doctors here seem to believe that the only thing necessary to legalize and make ethical any operation is the consent or desire of the patient. Of such carpenters (with apologies to all honest carpenters) there are far too many in El Paso. What the surrounding territory has we do not know. We hope that conditions there are better.

Some there may be who believe that an editor ought not to touch upon such things. To these we answer that the doctor's function is not, at least should not be, that of a bond servant; rather it is to advise and counsel, in the best sense of these words, not only his patients but the community which he serves.

If a young and attractive woman with a congenital cataract in each eye were to apply to an oculist to have these impediments to

vision removed and if she were to state that her whole purpose in seeking relief was to engage in prostitution, what decent oculist would demean his profession by aiding her in her plans?

The other day we were asked by a colleague to do a vasectomy for a man who felt that he had a large enough family. He had three children; just enough to perpetuate his line if no fatalities occurred before their time for procreation.

To such a level are we descending! The husband would make his wife an instrument for the sole purpose of satisfying his unbridled lust. He would enjoy the pleasures of marriage with no risk of penalties in the way of added responsibilities. He would defeat the ends of Nature that he might satisfy his basest impulses without compensation. And he is what is called a reasoning animal! And by a simple request he legitimizes and makes ethical the participation of his bond-servant, the doctor, in the mess.

This kind of surgeon, God save the mark, is no better ethically than the professional abortionist. Let us have less clever hand-work and more clean head-work.

This meeting of the Southwestern Medical and Surgical Association bids fair to be a dandy. Although the program is not yet definitely made out, each day makes it more certain that any man who misses this meeting will miss something good indeed.

Just a few of the good things are listed.

Charlie McMahon is going to present a paper on the paraffine treatment of burns. This will be very timely and will tell us much that we have wanted to know. Dr. McMahon has had a very extensive experience and he plans to let us take advantage of it.

Anyone who has forgotten Ralph Matson ought to stay at home as he is hopeless. The others need only to be reminded that he is coming, to assure their attention and attendance.

Dr. Howard Raper is an international authority on dental radiography. His text is almost universally used in the United States. He will discuss the latest fad in the way of slaughter of the teeth. We hope that Dr. Raper is finding in Albuquerque the health he came west to seek.

Dr. J. L. Yates is probably the biggest man in the country in chest surgery. If he has any peers we have not met them. His paper will take in the matters of anaesthesia, operating under positive pressure, the influence of the diaphragm on haemorrhage. He will give us the latest dope on Hodgkins with a lot of slides too.

There are many other features that we can not yet certify to and they will not be described in the Journal. But you can back our tip to the limit. Don't fail to be here for at least three days.

BOOK REVIEWS

1918 Collected Papers of the Mayo Clinic, Rochester, Minn. Octavo of 1196 pages, 442 illustrations. Philadelphia and London: W. B. Saunders Company, 1919. Cloth $8.50 net. W. B. Saunders Company, Philadelphia, London.

The Mayo Clinic Volume for 1918 contains approximately 1200 pages including index, and reproduces some 90 papers either complete or in the form of abstracts. Several of these papers are of the investigation type, such as "Studies on Cholesterol," but none of these seem at the present time to be of equal interest with the previous studies on the iodin compounds of the thyroid. In this particular instance the author concludes that since the blood cholesterol is increased in carcinoma cases, agents like radium and thyrotoxin which reduce blood cholesterol may on further study prove of greater value in the treatment of carcinoma. A few of the papers are of interest chiefly to the neurologist, the pediatrist, the internist, or the dermatologist, but the great mass of material applies particularly to the general surgeon or the urologist.

A paper on chronic ulcerative colitis reports 117 cases, and describes the disease as of long duration, of unknown etiology, and serious both from the standpoint of morbidity and mortality. Medicinal treatment is unsatisfactory, the best remedy so far found being hot water irrigations. From the fact that at least one of the cases recovered under emetine, and knowing the stubborness of old chronic amoebic infection to treatment, we might suspect it as the original cause of at least a portion of the cases. Of the cases operated upon, usually ileocolostomy, the immediate surgical mortality was 27½ %.

An article on acute perforations of the abdominal viscera by W. J. Mayo sums up in a few pages many important points, emphasizes the facts that chronic conditions, usually precede the perforation and give ample warning which should be a danger signal to the surgeon; that many perforations heal spontaneously, usually without curing the trouble; and that early operation, within the first eight hours, handled with the surgical dexterity and rapidity of getting in and out that should be the password of every abdominal surgeon, means the recovery of the patient.

While it is true that each separate paper should be read carefully to get the full benefit of its contents we may be permitted to state the important conclusions of some of them as follows: That cancer of the thyroid develops in an abnormal growth that has existed an average of over 11 years preceding operation and which should have received previous surgical attention; cures of simple goiter by operation approximate 70% with a larger percentage improved; the duration of myelogenous leukemia is in no way altered by splenectomy; the negative Wassermann is frequently contradicted by clinical evidence, and in the case of the primary sore the diagnosis should be made by the dark-field illuminator before the blood test becomes positive; partially autolyzed pneumococci seem to be of benefit in the treatment of pneumonia if given early.

The antigen will be sent on request to physicians in private practice who wish to study its action.

Finally we would mention a paper entitled "Modifications of Some Civil Surgical Practices Suggested by the Surgery of the War" in which is summed up briefly four important lessons. The first lesson applies to the age and condition of the patient as regards natural resistance; the second concerns infection of wounds, debridement and drainage; the third describes the lessons learned from treatment of shock; and the last concerns anaesthetics.

A careful perusal of the volume finds much that is worth while and teaches much that would be learned only by prolonged attendance at the clinics.

—E. B. R.

The Baltimore Number of the Medical Clinics of North America (W. B. Saunders and Co., May, 1919) is of unusual interest to the average physician as it contains valuable discussions of several important diseases.

In an article on diabetes the physiology of carbohydrate metabolism is first gone over thoroughly, particularly in relation to the physiology of the kidneys and pancreas and the influence of the ductless glands on sugar excretion. The importance of examination of specimens of urine passed a few hours after meals is mentioned. The paper establishes a sound physiologic basis for treatment.

The various cures for ulcer of the stomach are given in a medical way preceding discussion of the surgical indications. Pneumococcic spesis is fully discussed. There is an illustrated article on Roentgenologic signs of joint lesions in children, and two valuable articles on tuberculosis. —E. B. R.